

Docket No. DOW-31780

**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of : Aaron Seung-Joon Rhee et al.  
Serial No. : 10/690,680  
Filing Date : October 22, 2003  
For : Method to Improve the Performance of Film Products  
Confirmation No. : 6141  
Group Art Unit : 1732  
Customer No. : 29423

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**CERTIFICATION OF SUBMISSION**

I hereby certify that, on the date shown below, this correspondence is being transmitted via the Patent Electronic Filing System (EFS) to the U.S. Patent and Trademark Office.

Date: September 19, 2007

*JM A. Palmatier*

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Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sirs:

**APPEAL BRIEF UNDER 37 C.F.R. §41.37**

This is an appeal from the final rejection of Claims 1 and 3-8 as stated in the Office Action mailed March 19, 2007. The Notice of Appeal was timely filed on July 19, 2007.

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**I. REAL PARTY IN INTEREST**

The real party in interest is Union Carbide Chemicals & Plastics Technology Corporation.

## **II. RELATED APPEALS AND INTERFERENCES**

There are no prior pending related applications or patents under appeal, or the subject of an interference proceeding, or the subject of a judicial proceeding.

### **III. STATUS OF CLAIMS**

All the claims of this application and their individual status are reported in the Claims Appendix. Claims 1 and 3-8 are on appeal. Claim 9 was not entered.

**IV. STATUS OF AMENDMENTS**

The amendment filed on June 19, 2007 was not entered. All other amendments have been entered.

# **V. SUMMARY OF CLAIMED SUBJECT MATTER**

All of the claims under appeal are drawn to methods to improve the cling force of a stretch wrap film, with Claims 1 and 5 being independent.

The method of Claim 1 comprises:

<u>Claim Element</u>	<u>Description</u>
forming a stretch wrap film	Film forming is described from page 3, line 7 through page 4, line 16.
from a first composition comprising at least one linear low density polyethylene resin and	Suitable polyethylene resins are described from page 2, lines 8-21.
up to 100 ppm by weight of the total composition of ultra-fine zinc oxide, the ultra-fine zinc oxide having a mean particle size no greater than about 0.05 $\mu$ m.	Suitable zinc oxides and composition rates are described on page 2, line 22 through page 3, line 3.

The method of Claim 5 comprises:

<u>Claim Element</u>	<u>Description</u>
mixing	Mixing is briefly described on page 3, lines 4-6.
at least one linear low density polyethylene resin	Suitable polyethylene resins are described from page 2, lines 8-21.
with up to 500 ppm of ultra-fine zinc oxide	Suitable zinc oxides and composition rates are described on page 2, line 22 through page 3, line 3.
and forming the mixture into a stretch wrap film.	Film forming is described from page 3, line 7 through page 4, line 16.

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The issues on this Appeal are:

- 1) Whether Claim 3 is indefinite under 35 USC §112, second paragraph;
- 2) Whether Claims 1 and 3-7 are unpatentable as anticipated by or obvious over McKinney (US 4,430,289);
- 3) Whether Claim 8 is unpatentable as obvious over McKinney in view of Ealer (US 4,594,213); and,
- 4) Whether Claims 1 and 3-7 are unpatentable as obvious over Matteodo (US 5,132,344).

## VII. ARGUMENT

### Issue 1

Claims 3 is rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Applicants believe that the Examiner's error is failure to enter the amendment of Claim 3 that was filed on June 19, 2007. Such amendment should have been entered on the grounds of reducing the issues on appeal. If the Board finds Claim 3 to be otherwise allowable, please indicate whether the non-entered amendment would overcome this rejection.

### Issues 2 and 3

Claims 1 and 3-7 are rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over McKinney. Claim 8, which depends from Claim 5, is rejected under 35 USC 103(a) as being unpatentable over McKinney in view of Ealer. The Applicants traversed these rejections on the grounds that McKinney does not inherently disclose the method of the current claims but, rather, teaches away from the current invention.

With respect to inherency, the Examiner has failed to show that the undisclosed element must be present in McKinney.

'The law requires that inherency may not be established by possibilities or probabilities. The evidence must show that the inherency is necessary and inevitable.' *Interchemical Corp. v. Watson*, 111 USPQ 78, 79(d) (D.C. 1956), *aff'd*, 116 USPQ 119 (D.C. Cir. 1958); MPEP §2112.

The current claims are to a method for improving the cling force of a stretch wrap film. In contrast to the Examiner's position, McKinney does not disclose, even inherently, a method to improve the cling force of a stretch film. Instead, McKinney teaches a method to decrease the cling force of a film. Notably, the tables in Examples 2 and 3 of McKinney show that the

addition of the additives decreases the cling force of the films, as measured by film-to-film slip angle. Accordingly, McKinney explicitly shows that their method does not “necessarily and inevitably” improve the cling angle. As such, McKinney does not anticipate or render obvious the subject matter of the current claims.

Even more, McKinney actually teaches away from the current invention. Specifically, a reference that teaches a method to decrease cling force clearly teaches away from a method to improve cling force. Therefore, the anticipation and obviousness rejections based on McKinney should be overturned.

#### Issue 4

Claims 1 and 3-7 are rejected under 35 USC 103(a) as obvious over Matteodo, US Patent 5,132,344.

With regards to Matteodo (US Pat. No. 5,132,344), it teaches many types of polyethylene (see col. 2, lines 63-64) including linear low density polyethylene. It requires zinc oxide, but says it should be present in an amount in a range of from 100 to less than 2,000 ppm (see col. 2, line 35), and should have a particle size of from 0.05 to 2.0  $\mu\text{m}$ , preferably from 0.1 to 2.0  $\mu\text{m}$  (see col. 3, line 33). Matteodo also teaches that its compositions can be thermoformed, which includes film forming processes (see column 5, lines 23-29), although stretch wrap film is not specifically mentioned.

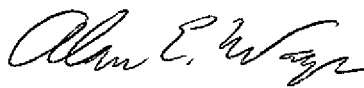
Matteodo fails to provide any teaching relevant to a method for improving the cling force of a stretch wrap film, much less the method as currently claimed. While some of the ranges of particular elements in Matteodo may overlap with ranges claimed in the present invention there is no teaching of the specific combination of elements claimed. In particular, there is no teaching of the combination of a small amount of zinc oxide having a small average diameter particle size.

In order to arrive at an example meeting the claims of the present invention from Matteodo, it would be necessary to pick specific materials and end use applications from Matteodo's broad teachings and choose ranges of particle size and amounts which are at the extreme of the ranges taught by Matteodo, and at least for the case of particle size, outside the preferred range. It is important to note that none of the Examples of Matteodo fall within the scope of the present invention, due to using a zinc oxide with a mean diameter size of 0.5  $\mu\text{m}$  (see col. 6, line 9), and in amounts greater than 100 ppm. Thus there is no novelty destroying point contained in the Examples. As there is no novelty destroying point in the Examples, and no teaching of the specific combination of elements claimed in the present invention, Matteodo is relevant only for a discussion of obviousness.

In terms of obviousness, there is no indication why a person of ordinary skill in the art, considering Matteodo, would choose to select the particular combination of elements claimed in the present invention. First as to particle size, at column 3, line 33, Matteodo teaches away from using the smaller materials included in its broadest range (0.5 $\mu\text{m}$  to 2 $\mu\text{m}$ ), indicating that the larger particles (0.1 $\mu\text{m}$  to 2 $\mu\text{m}$ ) are more preferred. Secondly, as to the amount, it is notable that at column 8, line 67, Matteodo states that using less than 100 ppm is actually worse than using none at all. Clearly this teaches away from the lower amounts now claimed by the Applicants.

The results presented in the present application demonstrate surprising results achieved when using the amounts and size of the zinc oxide particles with LLDPE. In particular Table 4, (including both 4.1 and 4.2) demonstrates that using ultra fine zinc oxide at low levels increases the cling force of stretch wrap films while maintaining other properties, including successful neutralization of acid in the resin (see Table 1). These results are unexpected, and are in no way suggested by Matteodo.

Respectfully submitted,



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## VIII. CLAIMS APPENDIX

The claims on appeal are:

1. (rejected) A method to improve the cling force of a stretch wrap film, the method comprising forming a stretch wrap film from a first composition comprising at least one linear low density polyethylene resin and up to 100 ppm by weight of the total composition of ultra-fine zinc oxide, the ultra-fine zinc oxide having a mean particle size no greater than about 0.05  $\mu\text{m}$ .

2. (cancelled)

3. (rejected) The method of Claim 1 wherein the zinc oxide is present in the composition in an amount between about 10 to about 100 ppm based on the weight of the total composition.

4. (rejected) The method of Claim 1 wherein the stretch film is characterized as having a higher cling force than a stretch film made from a second composition differing from the first composition only in that the zinc oxide has a mean particle size greater than 0.05  $\mu\text{m}$ .

5. (rejected) A method to improve the cling force of a stretch wrap film, the method comprising the steps of mixing at least 1 linear low density polyethylene resin with up to 500 parts per million by weight of the total composition of ultra-fine zinc oxide, the ultra-fine zinc oxide having a mean particle size no greater than 0.05 micrometers; and forming the mixture into a stretch wrap film.

6. (rejected) The method of Claim 5 wherein the mixing is conducted with the linear low density polyethylene resin in a molten state.

7. (rejected) The method of Claim 5 wherein the stretch wrap film is formed by a blown film process.

8. (rejected) The method of Claim 5 wherein the stretch wrap film is formed by a cast film process.

9. (not entered)

**IX. EVIDENCE APPENDIX**

None.

**X. RELATED PROCEEDINGS APPENDIX**

None.